PUBLIC INFORMATION

Seam weld defects are some of the integrity threats that are considered by pipeline operators in the development of integrity management plans. In particular, some early generation seam welds (e.g., prior to about 1970) can be more susceptible to failures because of poor mechanical properties.

Therefore, the U.S. Department of Transportation (DOT) Office of Pipeline Safety (OPS) Research and Special Programs Administration (RSPA) contracted with CC Technologies Services, Inc. to research the unique properties of early generation seam welds, describe seam weld defect types, and develop a defect assessment protocol. Principal funding for this work is provided by the Pipeline Research Council International (PRCI).

The project started in February of 2003, and major milestones have already been achieved. Pipeline operators were contacted to anonymously make seam property and defect type information available for this project. Seam property data and defect type data was collected from past reports for these operators, and from PRCI-funded research and from the open literature. Common formats for the presentation of the information were defined.

A total of approximately 40 pipe samples were identified and acquired from pipeline operators and other sources. The samples contained several different grades of pipe material, contained a variety of defects material, were produced by several manufacturers.

Material property testing is being performed to characterize the samples. This testing includes: chemical analyses, mechanical property tests for tensile and yield strength, and Charpy V-notch impact testing.

The results of this project will provide an understanding of the types of defects and mechanical properties of early generation seam welds, and will describe methods for evaluating the severity of seam weld defects.

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